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## **Natural Environment Capabilities at MSFC**

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The Natural Environments Branch at Marshall Space Flight Center is integral in developing, maintaining, and investigating NASA missions such as Space Launch Systems (SLS), currently under development, as well as many NASA and other agency satellite missions. We present the space environment capabilities of the Natural Environments Branch at MSFC. These in-house capabilities include model development, analysis of space and terrestrial related data, spacecraft charging anomaly investigations, surface charging modeling including Nascap-2k, space environment definition and radiation parts assessment. All aspects of space and terrestrial design are implemented with the goal of devising missions to be successful at launch and in the space environment of LEO, polar, GEO, and interplanetary orbits. In this poster, we show examples of recent applications of branch capabilities to NASA missions.